UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,089	07/13/2006	Willem J. Quadakkers	23660	1161

535 7590 11/09/2009

K.F. ROSS P.C.
5683 RIVERDALE AVENUE
SUITE 203 BOX 900
BRONX, NY 10471-0900

EXAMINER	
FOGARTY, CAITLIN ANNE	
ART UNIT	**PAPER NUMBER**
1793	

MAIL DATE	DELIVERY MODE
11/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,089	QUADAKKERS, WILLEM J.	
	Examiner	Art Unit	
	CAITLIN FOGARTY	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 11 – 20 are pending where all the pending claims are new. Claims 1 – 10 have been cancelled.

Status of Previous Objections and Rejections

2. The objection to claims 7 – 9 has been withdrawn since claims 7 – 9 have been cancelled.

The 35 U.S.C. 103(a) rejection of claims 1, 2, 4, 6, and 10 as being unpatentable over Gugel (US 5,741,372) has been withdrawn since claims 1, 2, 4, 6, and 10 have been cancelled.

The 35 U.S.C. 103(a) rejection of claims 7 – 9 as being unpatentable over Gugel (US 5,741,372) in view of the *ASM Handbook* has been withdrawn since claims 7 – 9 have been cancelled.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 11, 16, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 11, 16, and 19 recite "a *stable* α-aluminum oxide protective layer for an *aluminum-containing alloy Fe-Al or Ni-Al having an Al content of at least about 8% by weight or an aluminum-containing alloy Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight...*". Furthermore, claims 16 and 19 recite the step to "*selectively oxidize the Fe, Ni, or Cr in the aluminum-containing alloy*". The literal support for these new claim limitations is located in the "Prior Art" section of the instant specification on p. 1 line 15-p. 5 line 2 of the amended specification filed 11/18/2008. It is not clear from the wording of this section whether the recited claim limitations above are Applicant's invention or are already known in the prior art. Since all of these limitations are under the heading "Prior Art", it is assumed that this information is already known in the prior art and is not Applicant's invention and therefore these new claim limitations are new matter. If the recited claim limitations are Applicant's invention, the Examiner suggests that Applicant submit a declaration to state that the information contained in the "Prior Art" section is Applicant's invention in order to clarify the specification.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11, 16, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 11, 16, and 19 recite "an

aluminum-containing alloy Fe-Al or Ni-Al having an Al content of *at least about* 8% by weight or an aluminum-containing alloy Fe-Cr-Al or Ni-Cr-Al having an Al content of *at least about* 3% by weight. The phrase “at least about" is indefinite. See MPEP 2173.05(b) A.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 11 – 15, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gugel (US 5,741,372).

With respect to instant claim 11, col. 6 lines 21-29 and col. 6 line 62-col. 8 line 20 of Gugel disclose a method for preparing a protective layer for metals and alloys including Al alloys and Al-containing alloys. The method of Gugel comprises depositing a water soluble compound such as Cr or Ti on the surface of the alloy in an oxygen-containing atmosphere (steam) to form on the alloy an oxide layer having non-aluminum containing oxides (step a). The alloy is heated to temperatures of 200°C to below the melting point of the base metal which overlaps with the range recited in instant claim 11 (step b).

Gugel differs from instant claim 11 because it does not specifically teach that the aluminum-containing alloy is Fe-Al or Ni-Al having an Al content of at least about 8% by weight or Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight. However, col. 6 line 62-col. 7 line 3 of Gugel discloses that the alloy may be an iron base alloy or an Al base alloy which includes the alloys Fe-Al, Ni-Al, Fe-Cr-Al, or Ni-Cr-

Al recited in the instant claim. Furthermore, an Al base alloy of Gugel would have at least 8% by weight Al or at least 3% by weight Al as recited in the instant claim. It would have been obvious to one of ordinary skill in the art to apply the method of Gugel to an aluminum-containing alloy Fe-Al or Ni-Al having an Al content of at least about 8% by weight or Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight because Gugel teaches that the method may be applied to iron base alloys or Al base alloys. Gugel also differs from instant claim 11 because it does not specifically teach that the α-aluminum oxide protective layer is stable. However, one of ordinary skill in the art would have expected the α-aluminum oxide protective layer of Gugel to be stable since it is made using a method that is very similar to the instant method. See MPEP 2112. Finally, Gugel also differs from instant claim 11 because it does not specifically teach the reason for heating the alloy to temperatures above 800°C. However, one of ordinary skill in the art would have expected the method of Gugel to produce non-aluminum containing oxides on the surface of the alloy that act on the surface of the aluminum-containing alloy as a nucleating agent to promote formation of the stable α-aluminum oxide while suppressing formation of metastable forms of aluminum oxide since the method of Gugel is very similar to the instant method. Furthermore, the processing temperature is a result effective variable as disclosed in col. 7 lines 56-65. Therefore, it would have been obvious to one of ordinary skill in the art to choose an optimal controlled processing temperature, based on the chemical composition, through routine experimentation in order to obtain the necessary protection or technological properties of the surface layers. See MPEP 2144.05 II.

In regards to instant claim 12, col. 7 lines 14-21 of Gugel teach that the alloy is heated to temperatures of 200°C to below the melting point of the base metal which overlaps with the range recited in instant claim 12.

Regarding instant claim 13, Gugel does not specifically teach the thickness of the non-aluminum containing oxide layer. However, col. 7 lines 28-31 of Gugel disclose that the desired thickness of the non-aluminum containing oxide layer may be obtained by altering the soaking time of the alloy. Therefore, it would have been obvious to one of ordinary skill in the art to modify the soaking time in order to obtain the desired non-aluminum containing oxide layer thickness.

With respect to instant claims 14 and 15, col. 6 line 62-col. 8 line 20 of Gugel teach that the deposition is realized by vaporization and condensing since the method takes place in a steam (vapor) atmosphere.

In regards to instant claim 19, col. 6 lines 21-29 and col. 6 line 62-col. 8 line 20 of Gugel disclose a method for preparing a protective layer for metals and alloys including Al alloys and Al-containing alloys. The method of Gugel comprises heating the aluminum-containing alloy to at least 100°C to oxidize some elements from the alloy which diffuse to the surface and create complex compounds in the surface layer (see col. 8 lines 13-20). Therefore, an Al-containing alloy such as Fe-Cr-Al treated by the method of Gugel would form iron oxide or chromium oxide on the surface of the aluminum-containing alloy as recited in instant claim 19 (step a). Next, the alloy is heated to temperatures of 200°C to below the melting point of the base metal which overlaps with the range recited in instant claim 19 (step b).

Gugel differs from instant claim 19 because it does not specifically teach that the aluminum-containing alloy is Fe-Al or Ni-Al having an Al content of at least about 8% by weight or Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight. However, col. 6 line 62-col. 7 line 3 of Gugel discloses that the alloy may be an iron base alloy or an Al base alloy which includes the alloys Fe-Al, Ni-Al, Fe-Cr-Al, or Ni-Cr-Al recited in the instant claim. Furthermore, an Al base alloy of Gugel would have at least 8% by weight Al or at least 3% by weight Al as recited in the instant claim. It would have been obvious to one of ordinary skill in the art to apply the method of Gugel to an aluminum-containing alloy Fe-Al or Ni-Al having an Al content of at least about 8% by weight or Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight because Gugel teaches that the method may be applied to iron base alloys or Al base alloys. Gugel also differs from instant claim 19 because it does not specifically teach that the α-aluminum oxide protective layer is stable. However, one of ordinary skill in the art would have expected the α-aluminum oxide protective layer of Gugel to be stable since it is made using a method that is very similar to the instant method. See MPEP 2112. Finally, Gugel also differs from instant claim 19 because it does not specifically teach the reason for heating the alloy to temperatures above 800°C. However, one of ordinary skill in the art would have expected the method of Gugel to produce non-aluminum containing oxides on the surface of the alloy that act on the surface of the aluminum-containing alloy as a nucleating agent to promote formation of the stable α-aluminum oxide while suppressing formation of metastable forms of aluminum oxide since the method of Gugel is very similar to the instant method. Furthermore, the

processing temperature is a result effective variable as disclosed in col. 7 lines 56-65. Therefore, it would have been obvious to one of ordinary skill in the art to choose an optimal controlled processing temperature, based on the chemical composition, through routine experimentation in order to obtain the necessary protection or technological properties of the surface layers. See MPEP 2144.05 II.

In regards to instant claim 20, col. 8 lines 13-20 of Gugel teach that in step a the alloy is heated to at least 100°C to oxidize some elements from the alloy which diffuse to the surface and create complex compounds in the surface layer which overlaps with the temperature recited in the instant claim.

Since the claimed temperature ranges of claims 11, 12, 19, and 20 either overlap or are within the ranges disclosed by Gugel, a prima facie case of obviousness exists. See MPEP 2144.05. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed heating temperature from the heating temperature ranges disclosed by Gugel because Gugel teaches the same utility (i.e. method for preparing a protective layer for an aluminum-containing alloy) in the whole disclosed range.

10. Claims 16 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gugel (US 5,741,372) in view of the *ASM Handbook*.

With respect to instant claim 16, col. 6 lines 21-29 and col. 6 line 62-col. 8 line 20 of Gugel disclose a method for preparing a protective layer for metals and alloys including Al alloys and Al-containing alloys. The method of Gugel comprises heating the aluminum-containing alloy to at least 100°C to oxidize some elements from the alloy

which diffuse to the surface and create complex compounds in the surface layer (see col. 8 lines 13-20). Therefore, an Al-containing alloy such as Fe-Cr-Al treated by the method of Gugel would form iron oxide or chromium oxide on the surface of the aluminum-containing alloy as recited in instant claim 19 (step a). Next, the alloy is heated to temperatures of 200°C to below the melting point of the base metal which overlaps with the range recited in instant claim 16 (step b).

Gugel differs from instant claim 16 because it does not teach step a of treating the aluminum-containing alloy in a chloride- or fluoride-containing medium to selectively oxidize the Fe, Ni, or Cr in the aluminum-containing alloy. However, it is well known in the art as evidenced by p. 394 of Volume 13 of the 1992 9th Edition *ASM Handbook* that a non-aluminum containing oxide layer may be formed when an aluminum alloy is immersed in a bath containing fluoride. Therefore, it would have been obvious to one of ordinary skill in the art that the method disclosed in the *ASM Handbook* would be an alternative method of forming a non-aluminum containing oxide layer on an aluminum alloy in order to form a protective layer. Gugel in view of the *ASM Handbook* also differs from instant claim 16 because they do not specifically teach that the aluminum-containing alloy is Fe-Al or Ni-Al having an Al content of at least about 8% by weight or Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight. However, col. 6 line 62-col. 7 line 3 of Gugel discloses that the alloy may be an iron base alloy or an Al base alloy which includes the alloys Fe-Al, Ni-Al, Fe-Cr-Al, or Ni-Cr-Al recited in the instant claim. Furthermore, an Al base alloy of Gugel would have at least 8% by weight Al or at least 3% by weight Al as recited in the instant claim. It would have been

obvious to one of ordinary skill in the art to apply the method of Gugel to an aluminum-containing alloy Fe-Al or Ni-Al having an Al content of at least about 8% by weight or Fe-Cr-Al or Ni-Cr-Al having an Al content of at least about 3% by weight because Gugel teaches that the method may be applied to iron base alloys or Al base alloys. Gugel in view of the *ASM Handbook* also differs from instant claim 19 because it does not specifically teach that the α-aluminum oxide protective layer is stable. However, one of ordinary skill in the art would have expected the α-aluminum oxide protective layer of Gugel in view of the *ASM Handbook* to be stable since it is made using a method that is very similar to the instant method. See MPEP 2112. Finally, Gugel in view of the *ASM Handbook* also differs from instant claim 19 because it does not specifically teach the reason for heating the alloy to temperatures above 800°C. However, one of ordinary skill in the art would have expected the method of Gugel in view of the *ASM Handbook* to produce non-aluminum containing oxides on the surface of the alloy that act on the surface of the aluminum-containing alloy as a nucleating agent to promote formation of the stable α-aluminum oxide while suppressing formation of metastable forms of aluminum oxide since the method of Gugel is very similar to the instant method. Furthermore, the processing temperature is a result effective variable as disclosed in col. 7 lines 56-65. Therefore, it would have been obvious to one of ordinary skill in the art to choose an optimal controlled processing temperature, based on the chemical composition, through routine experimentation in order to obtain the necessary protection or technological properties of the surface layers. See MPEP 2144.05 II.

In regards to instant claim 17, Gugel does not teach that the aluminum-containing alloy is treated by introducing the alloy into the chloride- or fluoride-containing medium over a period of one minute to 5 hours. However, p. 394 of Volume 13 of the 1992 9th Edition *ASM Handbook* teaches that the aluminum alloy is introduced into the bath over a period of 1 to 3 minutes which is within the range recited in instant claim 17.

Regarding instant claim 18, Gugel does not teach that the aluminum-containing alloy is introduced into the chloride- or fluoride-containing medium at temperatures between 30° and 100°C. However, p. 394 of Volume 13 of the 1992 9th Edition *ASM Handbook* teaches that the aluminum alloy is introduced into the bath at temperatures between 25 and 60°C which overlaps with the range recited in instant claim 18.

Since the claimed heating temperature, hold time, and medium temperature ranges of claims 16 – 18 either overlap or are within the ranges disclosed by Gugel in view of the *ASM Handbook*, a prima facie case of obviousness exists. See MPEP 2144.05. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed heating temperature, hold time, and medium temperature from the heating temperature, hold time, and medium temperature ranges disclosed by Gugel in view of the *ASM Handbook* because Gugel in view of the *ASM Handbook* teaches the same utility (i.e. method for preparing a protective layer for an aluminum-containing alloy) in the whole disclosed range.

Response to Arguments

11. Applicant's arguments filed August 31, 2009 have been fully considered but they are not persuasive.

Arguments are summarized as follows:

a. A check of all of the examples in Gugel shows that the alloy substrate is always an iron-containing alloy, in particular various kinds of steels. There is no example in the reference showing any aluminum-containing alloy undergoing such a treatment. There is no indication that the problem of forming metastable forms of a metal oxide, as opposed to stable forms extends beyond aluminum alloys to iron alloys and to any of the other alloys with the metals named in Gugel.

b. From all of the elements listed in Gugel for forming the non-aluminum oxide layer on the aluminum-containing alloy, there is nothing that points in particular to Fe, Ni, Cr, or Ti as a group as opposed to all of the metals and other elements listed as suitable for forming the non-aluminum oxide. In fact, a Group IIB element is included as one of the elements forming an oxide, and Al itself is a Group III element. Therefore, the oxide layer formed on the surface of a metal substrate according to Gugel could even include aluminum oxide.

c. The kinds of alloys being treated in the specific examples according to Gugel are entirely different from the special aluminum alloys according to the present invention characterized by an excellent oxidation resistance at very high

operating temperatures about 1400°C. In the tables in Gugel, the steels coated with an oxide were tested at temperatures far lower than 1400°C.

d. There is no indication in the *ASM Handbook* of treating the special aluminum-containing alloy useful for high temperature oxidation resistance. In instant claims 16-18, the metal that forms the non-aluminum oxide is one of the metals that comes from the aluminum containing alloy itself, including Fe, Cr, Ni or Ti and not from an external source. However, in the *ASM Handbook*, the chromium in the chromic acid is in the hexavalent state, and not in the elemental state, as in the method of claim 16 in which the deposition takes place where the source of the elemental metal that is oxidized in situ to form the metal oxide layer on the aluminum-containing alloy, is the aluminum-containing alloy itself.

Examiner's responses are as follows:

a. The scope of Gugel is not limited to the specific embodiments it teaches. See MPEP 2123. The broadest disclosure of Gugel in col. 6 line 62-col. 7 line 3 teaches that the alloy substrate may be an Al base alloy. Therefore, it would have been obvious to one of ordinary skill in the art to apply the method of Gugel to an Al base alloy. In addition, Gugel is not required to recognize the same benefits of the method of the instant invention. See MPEP 2144 IV.

b. Gugel teaches in col. 7 lines 22-55 that Cr is a preferred element for forming the non-aluminum oxide layer on the aluminum-containing alloy and therefore one of ordinary skill in the art would have been motivated to select Cr

for this purpose. Furthermore, Gugel does not require that Al is required as an element for forming an oxide layer, but rather that it is optional.

c. The instant claims do not require that the alloy substrate is an aluminum alloy, but rather that the alloy substrate is an aluminum-*containing* alloy. In addition, Gugel teaches in col. 6 line 62-col. 7 line 3 teaches that the alloy substrate may be an Al base alloy. Fe-Al, Ni-Al, Fe-Cr-Al, and Ni-Cr-Al are all alloys that are well known in the art. It would have been obvious to one of ordinary skill in the art to apply the method of Gugel to any known iron base or Al base alloy with expected success because Gugel teaches that the disclosed method is applicable to both iron and Al base alloys. Furthermore, as discussed above in response a, the scope of Gugel is not limited to the specific embodiments it teaches. See MPEP 2123. Also, Gugel is not required to recognize the same benefits of the method of the instant invention. See MPEP 2144 IV.

d. The *ASM Handbook* is not required to recognize the same benefits of the method of the instant invention. See MPEP 2144 IV. Furthermore, although the method of the *ASM Handbook* may teach that Cr oxide is deposited on the aluminum alloy from an external source, one of ordinary skill in the art also would have expected that the Cr in an aluminum alloy containing Cr would be oxidized by the method of Gugel in view of the *ASM Handbook* because it is immersed in a bath containing fluoride as recited in the instant claim. Therefore, in the absence of evidence to the contrary, since the method of Gugel in view of the

ASM Handbook is very similar to the method of the instant invention, one of ordinary skill in the art would have expected them to form similar products.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

CF